

Appl. No. 10/828,804

Attorney Docket No. 10541-1971

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CENTRAL FAX CENTER**DEC 13 2006****II. Remarks**

Reconsideration and re-examination of this application in view of the above amendments and the following remarks is herein respectfully requested.

After entering this amendment, claims 1-20 remain pending with claims 1, 4-7, 9, and 11-20 currently under examination and claims 2, 3, 8 and 10 being withdrawn from consideration.

Claim Amendments

Claim 2 has been amended to clarify that the first and second elements have uninterrupted surfaces of rotation. Similarly, claim 13 has been amended to clarify that the first and second elements are defined by uninterrupted arch-shaped surfaces of rotation. It is respectfully submitted that no new matter has been added.

Claim Rejections - 35 U.S.C. §103(a)

Claims 1, 4-7, 9 and 11-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0017805 to Carroll et al. ("Carroll") in view of U.S. Patent No. 3,554,527 to Hall ("Hall"). Applicants respectfully traverse this rejection.

With respect to the embodiment of Hall cited by the Examiner and illustrated in Fig. 4, Hall discloses a shock absorber 30 that includes outer and inner chamber walls 32 and 34 defining a respective first chamber volume 36 and an internal chamber volume 38. (Hall, col. 2, lines 66-71, Fig. 4.) The first chamber volume 36 and the internal chamber volume 38 are in fluid

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communication with an ambient environment through a plurality of *apertures 40* interrupting the outer and inner chamber walls 32 and 34. (*Id.* at col. 2, lines 71-72.)

Referring now to claim 1, it is submitted that Hall fails to disclose first and second elements having *uninterrupted* surfaces of rotation. Since the outer and inner chamber walls 32 and 34 of Hall are interrupted by a plurality of apertures 40, placing the internal chamber volumes 36 and 38 into fluid communication with the ambient environment, the uninterrupted surfaces of the present invention provide improved energy absorption over Hall. Therefore, the rejection based thereon should accordingly be withdrawn.

Regarding claim 13, it is submitted, for at least the same reason noted above, that Hall fails to disclose first and second elements defined by *uninterrupted* surfaces of rotation. In addition, it is further noted that Hall discloses a *spherical* shock-absorber 10, a *toroidal* shock absorber 54, and shock absorber *spheres* 72, 74, 76, 78, and 80. (*Id.* at col. 2, line 13, col. 3, line 35, col. 4, line 1 and Figs. 2, 4, 7, and 9.) As one skilled in the art would readily appreciate, a sphere is defined by a circular surface of rotation rotated through an axis running through a center point of the circle and a torus is defined by rotating a circular surface of rotation about an axis offset from the center point of the circle. From this it is submitted that Hall also fails to disclose uninterrupted *arch-shaped* surfaces of rotation. It is submitted that the arch-shaped surface projecting from a base according to the present invention is an improvement over Hall, since the arch-shape improves energy absorption by distributing forces more



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evenly across the base than would the spherical surfaces taught by Hall. Accordingly, the rejection based thereon should also be withdrawn.

In that Hall fails to disclose or suggest elements that are defined by uninterrupted surfaces of rotation, which were previously noted as being absent in Carroll, it must be concluded that the combination of Carroll in view of Hall cannot render the claims of the present application as obvious. The rejection under § 103 is therefore improper and should be withdrawn.

Conclusion

In view of the above amendments and remarks, it is respectfully submitted that the present form of the claims are patentably distinguishable over the art of record and that this application is now in condition for allowance. Such action is respectfully requested.

Respectfully submitted,

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Date



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